

U.S. Apl'n No. 09/915,191
Atty. Docket No. 0331-018

REMARKS

Claims 1-20 are pending in the application. Claims 1, 8, 9 and 14 have been amended and new claims 19 and 20 have been added by the foregoing amendment. Applicants appreciate the Examiner's consideration, and making a record, of documents submitted in an Information Disclosure Statement (IDS).

Claims 1-4, 6-10, 12-15, 17 and 18 stand rejected under 35 U.S.C. § 102(e) as being unpatentable over U.S. Patent No. 6,266,348 ("Gross"). Claims 5, 11 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gross in view of U.S. Publication No. 2001/003106 ("Seagraves"). Applicants respectfully request withdrawal of these rejections in view of the following remarks.

Applicant's invention is directed to a messaging protocol that improves the reliability of messages transferred during initialization. As recited in amended claim 1 for example, a method of initializing a communication link between a first transceiver and a second transceiver for transferring data therebetween comprises (a) analyzing channel properties of a plurality of sub-channels within said communication link; (b) identifying a predefined number of sub-channels having an anticipated highest performance for communication; (c) communicating said sub-channels between said first and second transceivers; and (d) transmitting information for initializing said communication link using said sub-channels wherein at least steps (b) and (c) are performed between a channel analysis phase and an exchange phase of initialization.

As described in the background of Applicant's invention, initialization of a communication link includes several phases: handshaking, transceiver training, channel analysis and exchange (p. 2, l. 12). Transmission rates for both upstream and downstream are set in the

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exchange phase (p. 3, lines 1-2). Due to the importance of information being transferred during the exchange phase between the ATU-C and the ATU-R, a set of bits are modulated into a primary and a set of back-up tones for improving robustness (p. 3, lines 12-14). Due to a low SNR in the frequency band of the backup tone, however, the set of backup tones are ineffective (p. 6, lines 21-23).

Applicant's invention discloses additional transmissions (ATU-C and ATU-R) being inserted between the channel analysis phase and the exchange phase. A predefined number of sub-channels are identified and communicated between the ATU-C and the ATU-R during this 'intermediate' phase. Indices of a number of tones (corresponding to the predefined number) with the best available SNR are included in messages between the ATU-C and the ATU-R. The indices of the number of tones are selected adaptively as opposed to using fixed indices for transferring messages. The messages are communicated between the ATU-C and ATU-R using reliable modulation (such as 1-bit per symbol for example).

Gross discloses a splitterless multicarrier modem utilizing conventional initialization schemes. As such, the problems encountered in conventional initialization as highlighted above will also be encountered by Gross.

Gross fails to describe, for example, identifying a predefined number of sub-channels having an anticipated highest performance for communication and communicating said sub-channels between said first and second transceivers wherein at least one of the identifying and the communication is performed between a channel analysis phase and an exchange phase of initialization. In Gross, these functions are performed in the exchange phase which leads to a less robust and less reliable initialization as described in background of Applicant's invention.

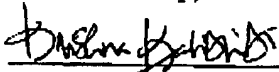
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At least for these reasons, it is believed that claim 1 is allowable over the teachings of Gross. Similarly, claims 8, 9 and 14 are also allowable. The remaining claims (i.e. claims 2-7, 10-13 and 15-20), all of which depend on one of the independent claims 1, 8, 9 and 14 and cite additional advantages thereof, are also allowable.

All of the rejections having been overcome, it is respectfully submitted that this application is in condition for allowance and a notice to that effect is earnestly solicited. Should the Examiner have any questions with respect to expediting the prosecution of this application, he is strongly urged to contact the undersigned at the number listed below.

Respectfully submitted,

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